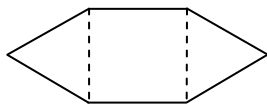
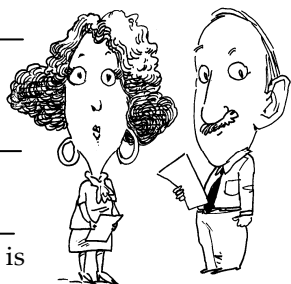


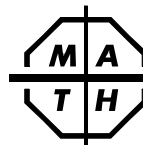
28. $(8 + 10 + 12) + (8 + 10 - 12) + (8 + 12 - 10) + (10 + 12 - 8) =$
 A) $(8+10+12)$ B) $2 \times (8+10+12)$ C) $3 \times (8+10+12)$ D) $4 \times (8+10+12)$
29. If a whole number between 100 and 999 has three different non-zero digits, what is the least possible value of the sum of its digits?
 A) 7 B) 6 C) 4 D) 3
30. In 20 years, Ed will be 31 and Di will be 35. The sum of their ages now is
 A) 26 B) 46 C) 86 D) 106
31. What month is 1000 months after March?
 A) March B) May C) June D) July
32. The ones digit of the product $123 \times 456 \times 789$ is
 A) 1 B) 2 C) 3 D) 4
33. An equal number of pennies, nickels, and dimes have a combined total value of \$2.40. The total value of the nickels is
 A) 15¢ B) 50¢ C) 75¢ D) 95¢
34. $(2010 - 2005) \times (2005 - 2000) \times (2000 - 1995) \times \dots \times (10 - 5) \times (5 - 0) =$
 A) 5^{402} B) 5^{401} C) 5×402 D) 5×401
35. Two equilateral triangles share sides with a square, as shown. If a side of the square has a length of 4, what is the perimeter of the figure?
 A) 48 B) 40 C) 32 D) 24
36. If there are 420 students in my school, then the ratio of boys to girls in my school *cannot* be
 A) 3:7 B) 5:9 C) 11:14 D) 17:18
37. 300% of 300 = ? % of 3000 A) 10 B) 25 C) 30 D) 50
38. Bricks weigh 3 kg or 7 kg each. Cy picks up at least one brick of each size. The total weight of bricks he picks up *cannot* be
 A) 21 kg B) 27 kg
 C) 30 kg D) 39 kg
39. The smallest prime number that is a factor of $(1 \times 2 \times 3 \times \dots \times 30) + 1$ must be
 A) less than 10 B) between 10 & 20
 C) between 20 & 30 D) greater than 30
40. How many whole numbers from 1 through 500 have a 3 as the hundreds digit or ones digit, but *not* as both?
 A) 130 B) 140 C) 150 D) 160



The end of the contest 6

Visit our Web site at <http://www.mathleague.com>

Steven R. Conrad, Daniel Flegler, and Adam Raichel, contest authors



2009-2010 Annual 6th Grade Contest

Tuesday, February 23 (Alternate date: February 16), 2010

6

Instructions

- **Time** Do *not* open this booklet until you are told by your teacher to begin. You might be *unable* to finish all 40 questions in the 30 minutes allowed.
- **Scores** Please remember that *this is a contest, and not a test*—there is no “passing” or “failing” score. Few students score as high as 30 points (75% correct). Students with half that, 15 points, *should be commended!*
- **Results Posted Online** High-scoring contest results, both overall and regional, will be posted at www.mathleague.com no later than April 16.
- **Format, Point Value, & Eligibility** Every answer is an A, B, C, or D. Write answers in the *Answers* column. A correct answer is worth 1 point. Unanswered questions get no credit. You **may** use a calculator. You’re eligible for this contest only if you are in grade 6 or below and only if you don’t also take this year’s Annual 7th or Annual 8th Grade Contest.

Please Print (to the student: you must complete all items below)

Last Name _____ First Name _____

School _____ Teacher _____ Grade Level _____

Time at Start of Contest _____ Today’s Date _____

Do Not Write In The Space Below

To the Teacher:

Please enter the score at the right before you return this paper to the student. *Papers with scores of 30 or higher must be held until June 1.* Student’s Score: _____

Fifteen books of past contests, *Grades 4, 5, & 6 (Vols. 1, 2, 3, 4, 5)*, *Grades 7 & 8 (Vols. 1, 2, 3, 4, 5)*, and *High School (Vols. 1, 2, 3, 4, 5)*, are available, for \$12.95 per volume (\$15.95 Canadian), from Math League Press, P.O. Box 17, Tenafly, NJ 07670-0017.

2009-2010 6TH GRADE CONTEST

Answers

1. A spider has 8 legs and a tortoise has 4 legs. How many legs do 3 spiders and 3 tortoises have all together?
A) 14 B) 17 C) 36 D) 42
2. ? is divisible by 3.
A) 2009 B) 2010 C) 2011 D) 2012
3. $4 \times 4 \times 2 \times 2 \times 4 \times 0 =$
A) 6400 B) 64 C) 12 D) 0
4. A square has a side of length 5. What is its perimeter?
A) 10 B) 20 C) 25 D) 50
5. $13 + (15 + 17) =$
A) $(13 + 15) + 17$ B) $(13 + 15) + (13 + 17)$
C) $(13 \times 15) + (13 \times 17)$ D) $13 \times (15 + 17)$
6. A Ferris wheel costs 50¢ per ride and a roller coaster costs \$1.25 per ride. The total cost of 5 Ferris wheel rides and 10 roller coaster rides is
A) \$13 B) \$14 C) \$15 D) \$16
7. $\frac{1}{8} + \frac{2}{8} + \frac{3}{8} =$
A) $\frac{3}{4}$ B) $\frac{3}{8}$ C) $\frac{3}{16}$ D) $\frac{5}{24}$
8. Yesterday the train came at 8 AM, and today it came at 3 PM. How many hours passed between yesterday's and today's arrivals?
A) 7 B) 19 C) 31 D) 35
9. $2008 + 2009 + 2010 + 2011 + 2012 =$
A) 10050 B) 10051 C) 10052 D) 10053
10. How many prime factors does 42 have?
A) 1 B) 2 C) 3 D) 4
11. Half the sum of the degree-measures of the angles of an isosceles triangle is
A) 45 B) 90 C) 180 D) 360
12. Which of the following numbers is *not* the square of a whole number?
A) 100 B) 144 C) 196 D) 200
13. The greatest common factor of 23 and 24 is
A) 20 B) 12 C) 2 D) 1
14. $6 \times 6 \times 6 \times 6 \times 6 =$
A) 6×5 B) 5^6 C) 6^5 D) 4^6



2009-2010 6TH GRADE CONTEST

Answers

15. Amy's age is three times the age of her little sister Bo. Her Uncle Charles' age is three times the sum of the ages of Amy and Bo. If Amy is 18, how old is Charles?
A) 54 B) 60 C) 66 D) 72
16. $5 = 10\%$ of 20% of
A) 1000 B) 530 C) 500 D) 250
17. How many even numbers are there between 2011 and 2099?
A) 44 B) 45 C) 88 D) 89
18. What is the average of 80, 83, 86, 89, and 92?
A) 85 B) 85.5 C) 86 D) 86.5
19. In a class of 18 students, 6 are wearing jeans. What is the ratio of students wearing jeans to students *not* wearing jeans?
A) 1:2 B) 1:3 C) 2:3 D) 2:1
20. The sum of two numbers is 12, and their product is 35. The larger of the two numbers is
A) 8 B) 7 C) 6 D) 5
21. $(123 \times 8) + (123 \times 9) + (123 \times 10) + (123 \times 11)$ is divisible by
A) 9 B) 8 C) 7 D) 6
22. When twice the perimeter of a square is tripled, the result is 72. What is the area of the square?
A) 3 B) 9 C) 12 D) 16
23. Of the following numbers, which is the largest number?
A) 1^5 B) 2^4 C) 3^3 D) 4^2
24. On every odd-numbered day in May, Dave ran for 15 minutes. On every even-numbered day in May, he ran for 44 minutes. For how many *hours* did he run in May?
A) 15 B) 30 C) 60 D) 900
25. $5 \times \sqrt{5} \times 5 \times \sqrt{5} =$
A) $5 \times 5 \times 25$ B) $5 \times 5 \times 5$
C) $5 \times 5 \times 2$ D) 5×5
26. The product of two whole numbers is 30. What is the least possible value of their sum?
A) 10 B) 11 C) 13 D) 31
27. $222 \times 66 = 333 \times 44 \times ?$
A) 1 B) 2 C) 3 D) 4

